

# UTILITY FACTS



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## INTRODUCTION

Vermont's Department of Public Service (Department or DPS) is charged with representing the public interest in utility cases before the Public Service Board, federal regulatory agencies, and state and federal courts; providing long range planning for the state's energy and telecommunications needs through the *Vermont Electric Plan* and the *Comprehensive Energy Plan*; ensuring all Vermonters share in the benefits of modern communications through the *Vermont Telecommunications Plan*; promoting energy efficiency; administering federal energy programs; resolving utility customer complaints; and making and administering contracts for the purchase of power on behalf of the state.

The Department's mission is to serve all citizens of Vermont through public advocacy, planning, programs, and other actions that meet the public's need for least cost, environmentally sound, efficient, reliable, secure, sustainable, and safe energy, telecommunications, and regulated utility systems in the state for the short and long term. The Department does this by:

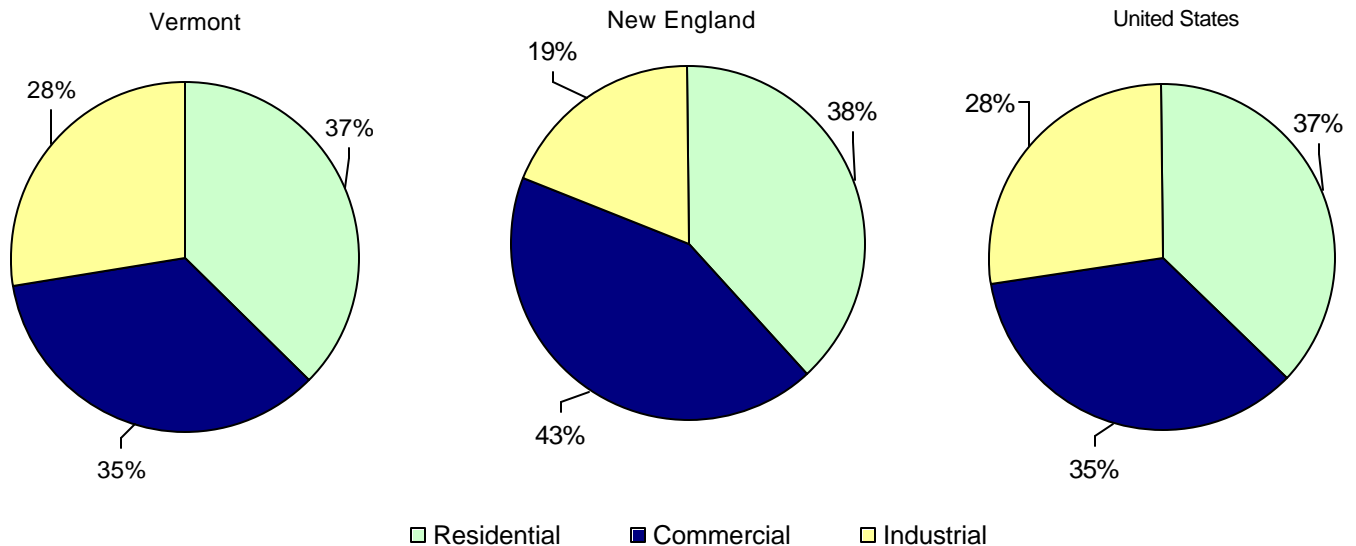
- Promoting the interest of the general public in the provision of the state's regulated public services—electricity, natural gas, telephone, cable television, and to a limited degree water and wastewater;
- Ensuring that the state's telecommunications infrastructure can support a diversified set of services that address the current and potential needs of the state's residents and business entities; and
- Protecting the public health and safety and ensuring that safety regulations established by federal and state government for nuclear facilities, natural gas, and certain types of propane installations are met.

Part of the Department's ongoing mission is to provide the public with up-to-date information regarding Vermont's utilities. *Utility Facts* furthers this mission, providing utility data as it becomes available in an easy to access format. The report is divided into four sections, (electricity, gas, telecommunications and water) each of which contains tables, charts and references.

## I. ELECTRICITY

### 1. Retail Sales of Electricity

**Figure 1.1 Percentage of Retail Electricity Sales by End-use Sector 2005**



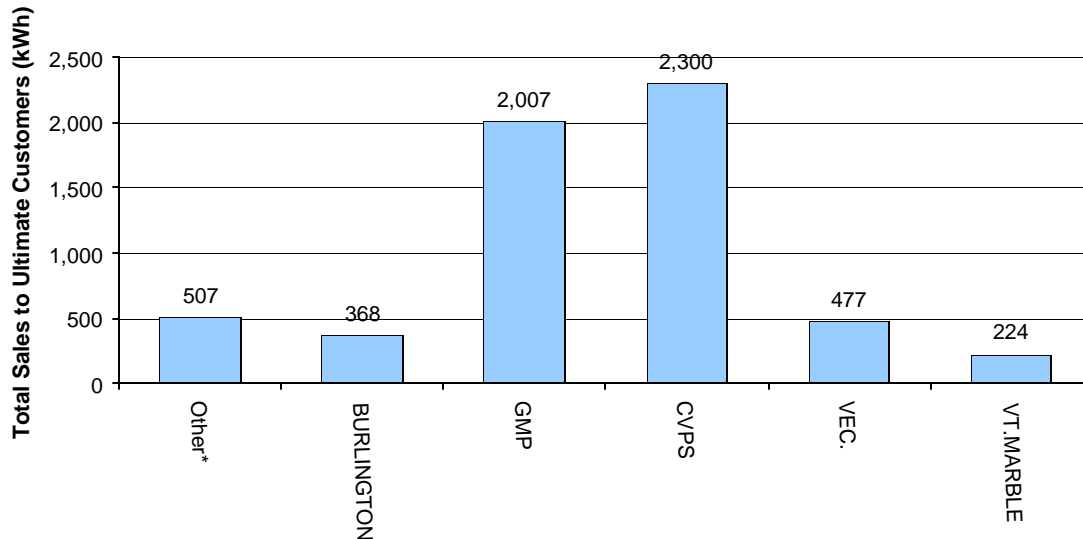
Vermont electric utilities supply electricity (measured in Kilowatt-hours (kWh)) to three primary end-use sectors: residential, commercial and industrial. As indicated in the charts above, Vermont's electric demand by end-use sector parallels the national average, but differs significantly from the New England average.

**Table 1.1 Retail Sales of Electricity to Ultimate Customers by End-Use Sector: 2005 and 2004 (Million kWh)**

<u>Vermont 2005</u>		<u>Vermont 2004</u>	
Residential	2,204	Residential	2,109
Commercial	2,056	Commercial	1,978
Industrial	1,630	Industrial	1,577
Total	5,890	Total	5,664
<u>New England 2005</u>		<u>New England 2004</u>	
Residential	48,482	Residential	46,703
Commercial	53,551	Commercial	53,683
Industrial	24,289	Industrial	24,267
Total	126,322	Total	124,653
<u>US Total 2005</u>		<u>US Total 2004</u>	
Residential	1,361,120	Residential	1,293,587
Commercial	1,266,700	Commercial	1,229,045
Industrial	1,016,731	Industrial	1,018,522
Total	3,644,551	Total	3,541,154

## 2. kWh Sales and Revenue of Vermont Utilities

Figure 1.2 Sales of Vermont Utilities 2005



\*Other VT Electric Utilities

Table 1.2 Vermont Utility Sales and Revenue 2005

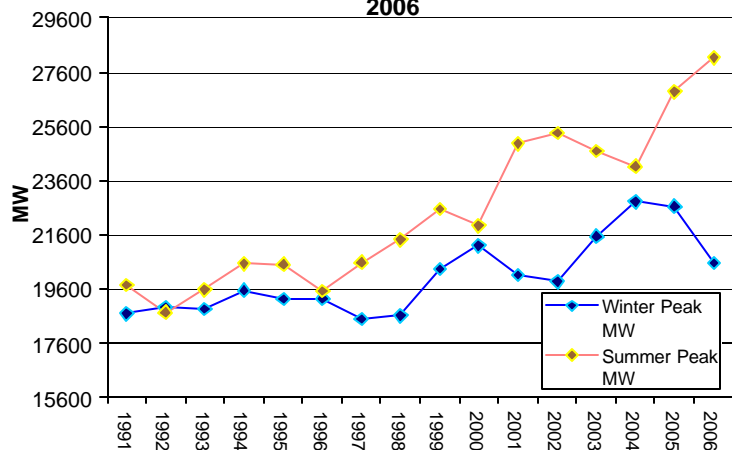
	Sales (kWh)	Utility Rate Revenue (\$)	Residential ( kWh)	Commercial ( kWh)	Industrial ( kWh)
BARTON	15,226,320	\$2,208,958	10,961,450	3,262,165	0
BURLINGTON	368,278,948	\$37,718,445	95,303,586	194,519,882	75,066,633
CVPS	2,300,103,000	\$261,797,749	978,164,000	902,062,000	414,341,000
ENOSBURG FALLS	19,947,472	\$2,953,123	11,020,089	1,348,916	6,109,838
GMP	2,006,703,000	\$207,653,840	598,605,000	717,451,000	686,260,000
HARDWICK	32,584,463	\$4,568,320	23,933,711	4,300,569	4,148,978
HYDE PARK	11,967,537	\$1,457,890	8,692,399	1,295,570	1,393,702
JACKSONVILLE	5,313,201	\$701,449	3,546,084	727,900	1,039,217
JOHNSON	15,478,575	\$1,493,725	5,355,353	1,368,673	8,450,494
LUDLOW	50,778,335	\$5,515,256	16,463,560	16,154,543	17,807,465
LYNDONVILLE	71,772,284	\$8,195,733	34,141,503	11,027,525	26,084,247
MORRISVILLE	45,371,493	\$6,035,763	20,651,776	24,619,318	0
NORTHFIELD	27,933,185	\$3,161,737	10,902,145	2,939,291	11,959,563
ORLEANS	13,979,851	\$1,508,006	4,162,226	1,708,114	7,502,400
READSBORO	2,399,100	\$237,953	1,705,891	326,119	282,586
ROCHESTER	6,370,219	\$932,492	4,461,986	1,523,756	0
STOWE	65,553,278	\$8,086,286	21,425,318	26,020,273	11,113,140
SWANTON	53,165,146	\$5,490,819	25,072,436	3,823,864	22,647,714
VEC	476,609,516	\$54,913,322	245,697,587	114,164,508	108,496,512
VT.MARBLE	224,157,616	\$11,512,241	6,412,382	4,660,301	212,986,533
WEC	68,790,742	\$10,817,930	62,105,669	3,349,191	3,327,782
<b>Totals</b>	<b>*5,882,483,281</b>	<b>\$636,961,037</b>	<b>2,188,784,151</b>	<b>2,036,653,478</b>	<b>1,619,017,804</b>

\*Total includes "Public Street and Highway" (16,812,098) and "Other and Public Authorities" (21,215,750 kWh) sales.

Source: VTDPs

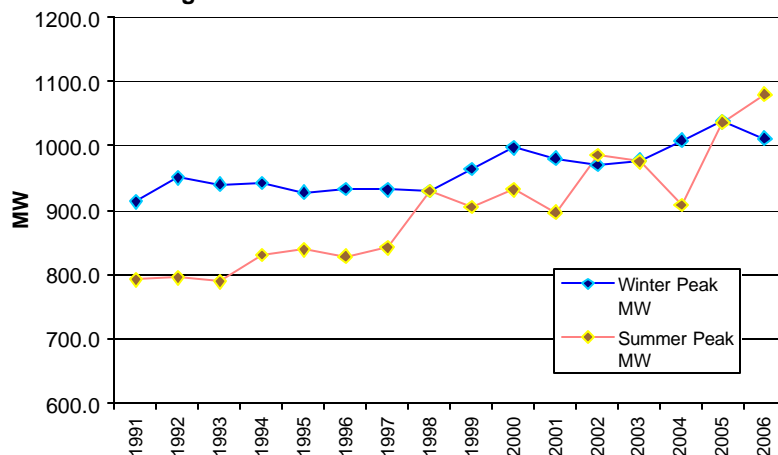
### 3. Seasonal Peaks in Vermont and New England

**Figure 1.3 New England Seasonal Peak MW 1991-2006**



Source: ISO-New England

**Figure 1.4 Vermont Seasonal Peak MW 1991-2006**



Source: VTDPs

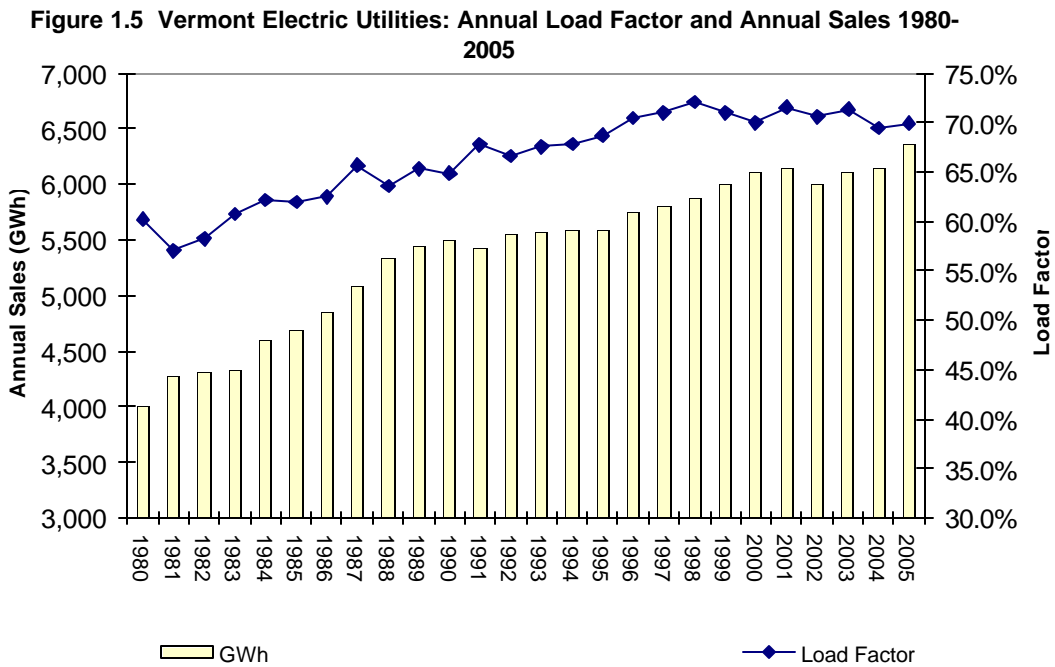
In 2005 the trend towards increasing summer and winter peak electrical loads in New England continued. However, as Figure 1.4 illustrates, Vermont's 2006 winter peak was lower than the winter peak of the previous year due to a milder winter. Vermont's load factor, on the other hand, has decreased slightly in recent years (see figure 1.5) due largely to increases in the growth of peak period demand.

**Table 1.3 Vermont Seasonal Peak (MW) 1991-2005**

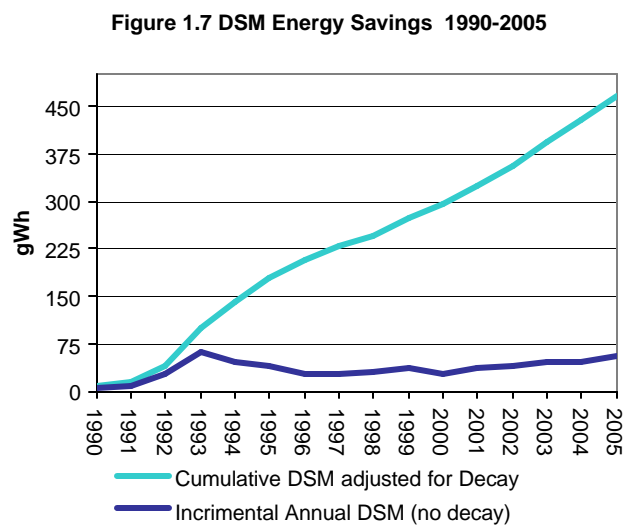
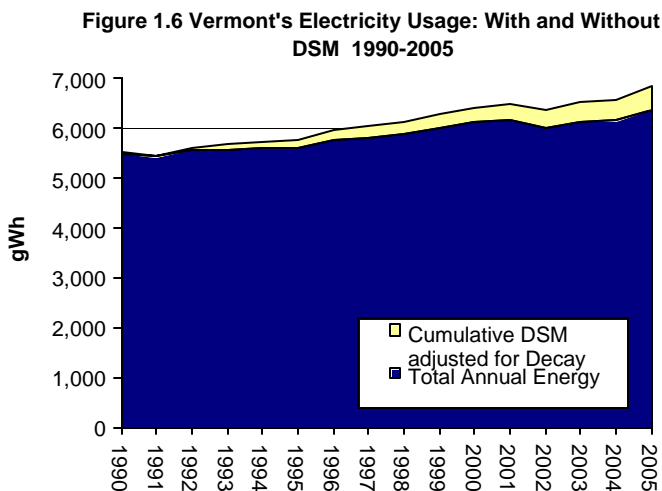
Year	Winter Peak (MW)	Summer Peak (MW)	Load Factor
1991	913.4	792	67.7%
1992	950.6	795	66.6%
1993	940.8	789	67.5%
1994	942.2	831	67.8%
1995	927.6	839	68.7%
1996	932.7	828	70.5%
1997	932.6	842	71.0%
1998	929.8	930	72.1%
1999	964.5	906	71.0%
2000	997.0	932.5	70.0%
2001	981.1	897.2	71.5%
2002	970.4	986.1	70.5%
2003	977.7	975.2	71.3%
2004	1,008.9	908.4	69.5%
2005	1,037.6	1,037.2	69.9%
2006	1,011.7	1,081.0	

Source: VTDPs

## 4. Load Factor and DSM



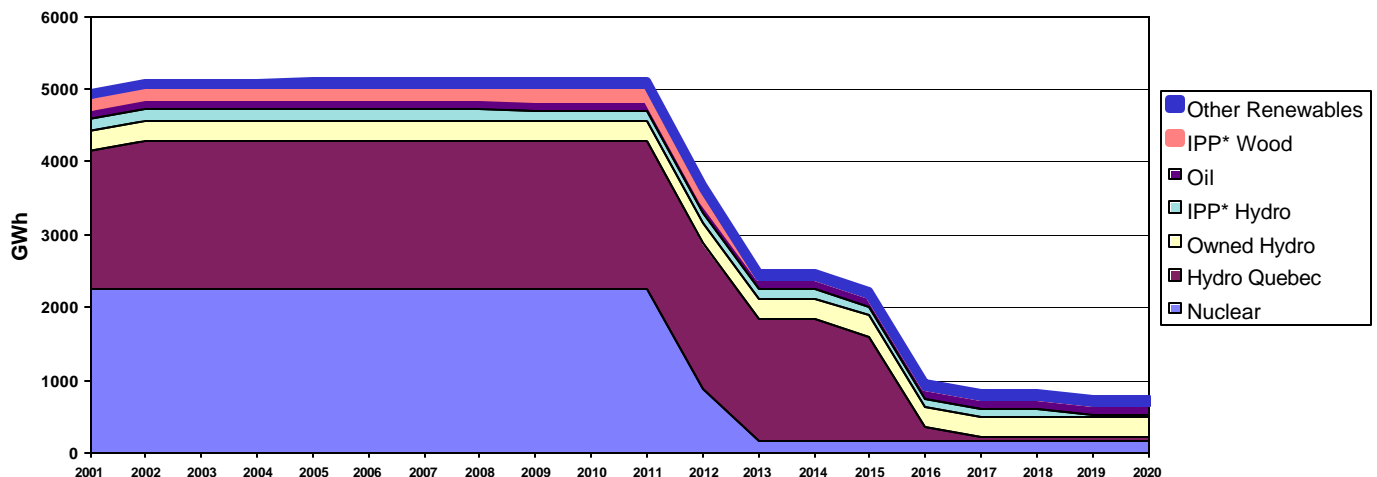
*Demand Side Management (DSM)* achieved through Efficiency Vermont and other demand management activities continues to reduce Vermont's total annual electricity usage. DSM activities in Vermont have reduced electricity usage by approximately 460 (GWh) of incremental annualized energy and continue to curtail both peak and total energy demand.





## 5. Vermont's Energy Supply

Figure 1.8 Committed Resources as of 2005



\*Independent Power Producer

Currently, Vermont has large contracts with both Entergy (Vermont Yankee) and Hydro Quebec. These two resources comprise nearly 2/3 of Vermont's energy supply commitments. In addition to these sources, Vermont utilities also purchase their energy from the wholesale New England power market (System), and from gas, oil and other renewable electricity generators.

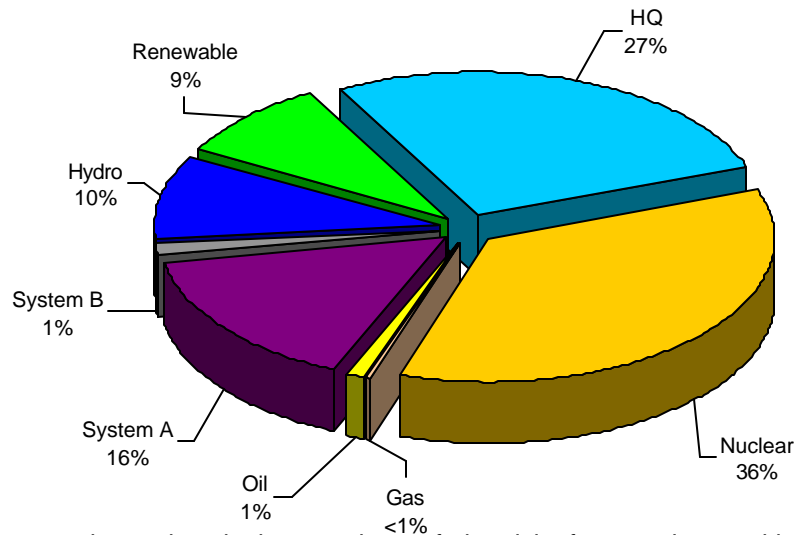
Table 1.4 Vermont's Electric Utilities by Energy Source (MWh) 2005

	Nuclear	Gas	Oil	System A*	System B*	Hydro	Hydro Quebec	Renewables	Total
<b>Barton</b>	0	0	3	4,357	0	4,154	8,575	459	17,548
<b>BED</b>	0	208	267	254,643	500	11,189	0	129,948	396,756
<b>CVPS</b>	1,365,675		51,469	3,133	60,000	251,467	718,767	67	2,450,578
<b>Enosburg</b>	0	5	3	6,137	0	5,228	9,879	3,228	24,480
<b>GMP</b>	816,990	10,315	19,853	291,612	10,000	190,586	680,984	88,798	2,109,138
<b>Hardwick</b>	0	622	304	33,384	0	4,704	0	4,108	43,121
<b>Hyde Park</b>	0	0	0	3,785	0	374	2,305	6,687	13,150
<b>Jacksonville</b>	0	0	0	5,695	0	179	0	173	6,047
<b>Johnson</b>	0	0	0	16,072	0	495	0	478	17,045
<b>Ludlow</b>	0	896	438	35,712	0	1,451	9,229	5,359	53,086
<b>Lyndonville</b>	0	477	295	48,058	0	6,605	18,084	8,487	82,005
<b>Morrisville</b>	11,412	421	202	10,132	0	9,806	15,989	7,011	54,972
<b>Northfield</b>	0	7	0	14,337	0	875	8,912	5,064	29,195
<b>Orleans</b>	0	0	0	10,021	0	452	4,256	437	15,165
<b>Readsboro</b>	0	0	0	2,519	0	75	0	72	2,666
<b>Rochester</b>	0	0	0	21	0	200	1,996	193	2,410
<b>Stowe</b>	0	1,934	961	41,315	0	2,154	20,794	8,254	75,413
<b>Swanton</b>	0	418	202	2,666	0	46,614	0	9,576	59,476
<b>VEC</b>	79,579	0	0	20,024	0	14,776	225,830	180,982	521,190
<b>VT Marble</b>	0	0	960	179,111		52,803	12,130	6,475	251,479
<b>WEC</b>	0	8	0	19,784	15,204	5,027	15,259	17,847	73,128
<b>Total</b>	<b>2,273,656</b>	<b>15,311</b>	<b>74,957</b>	<b>1,002,516</b>	<b>85,704</b>	<b>609,212</b>	<b>1,752,988</b>	<b>483,702</b>	<b>6,298,046</b>

\*\*"System A" represents system energy purchased by utilities and "System B" represents power associated with the sale of Renewable Energy Credits (RECs).

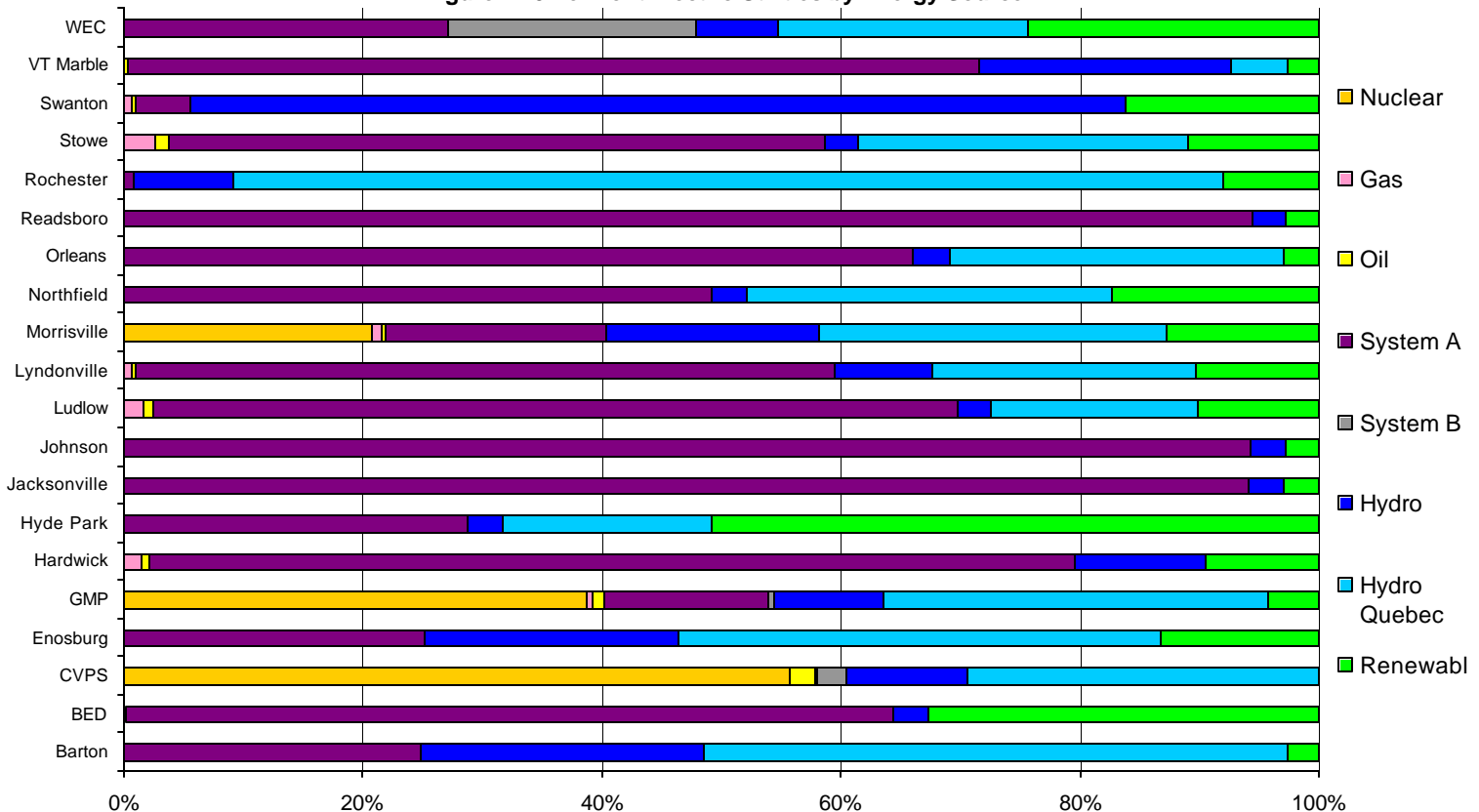
Source: VTDPs

Figure 1.9 2005 Vermont Own Load Electric Energy Supply



Vermont currently receives its largest share of electricity from nuclear and hydro-power, but receives a significant portion of its power from New England's power market (see System A in Figures 1.9 and 1.10). While the use of renewable fuels continues to grow, Vermont's utilities are now selling the attributes of renewable energy through Renewable Energy Credits (RECs) to other utilities that need the credits to reach their state's renewable portfolio goals. In Figures 1.9 and 1.10, *Renewables* represent the renewable resources in Vermont. *System B* represents power from which RECs have been sold and are no longer claimed by Vermont Utilities as renewable resources.

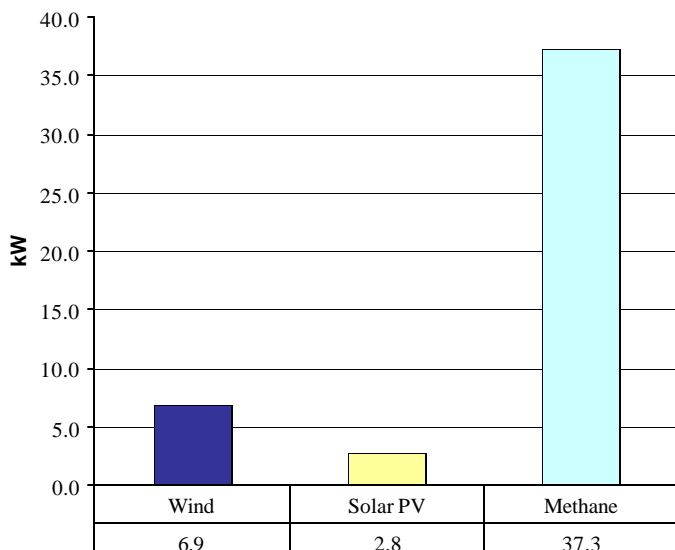
Figure 1.10 Vermont Electric Utilities by Energy Source



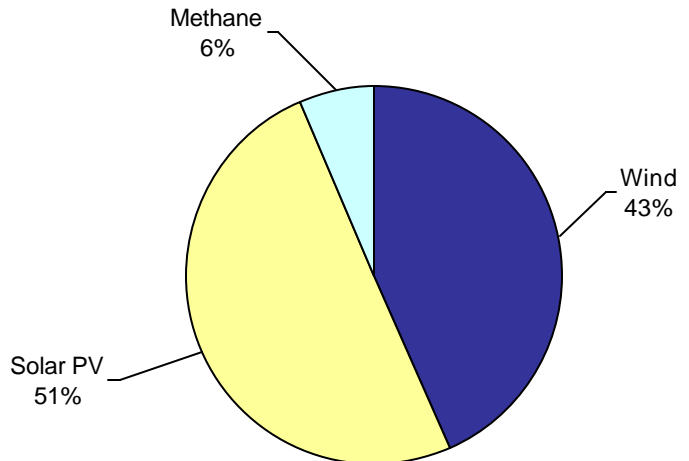
Source: VTDPs, (Compiled from FERC form 1 and Annual Financial Reports to PSB).

## 6. Net Metered Systems

**Figure 1.11 Average Size of Approved Net Metered Systems in Vermont (kW capacity)**



**Figure 1.12 Percent of Total Approved kW Capacity of Net Metered Systems in Vermont (cumulative as of June 2006)**



As of July 2006, the VT Public Service Board (PSB) approved over 1,047 Kilowatts (kW) of electricity generation capacity from Wind, Solar and Methane systems for net metering. These kW *unlike* Kilowatt-hours (kWh) (which measure an amount of electricity actually produced) indicate the quantity of electricity the approved systems can *potentially* generate. As figure 1.11 and 1.12 illustrate, each individual Methane system may have the largest approved net-metered electricity production capacity. However, solar energy accounts for the largest share of approved kW capacity in Vermont because there are more individual solar generating systems.

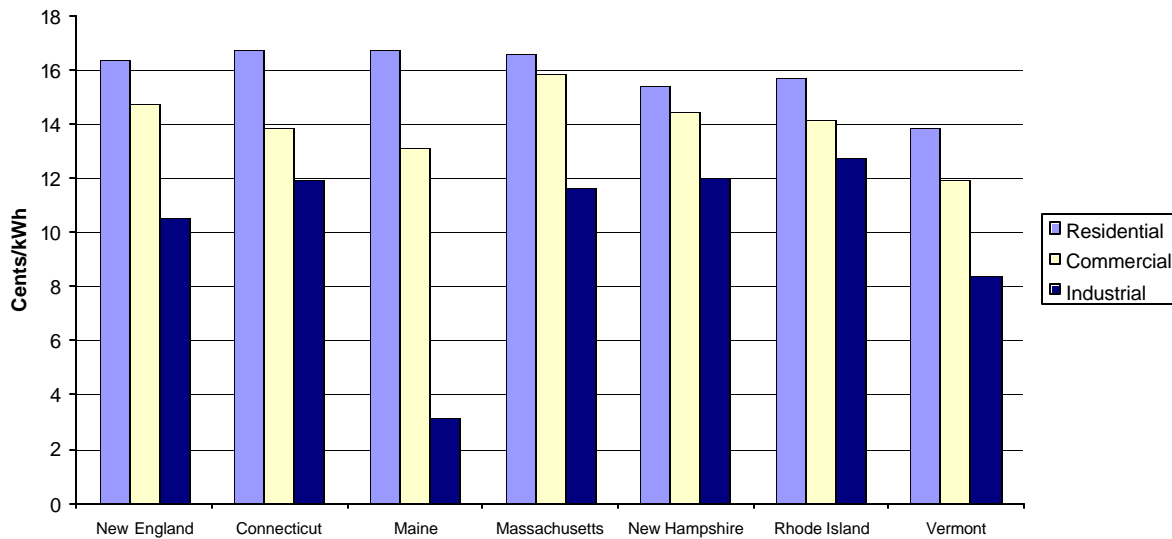
**Table 1.5 Approved Net Metering Systems and Capacity as of July 2006**

	Total kW	Wind	Solar	Methane
<b>Total kW approved</b>	1,047.8	447.0	526.3	74.5
<b>Number of Systems</b>		65	186	2
<b>Average Size (kW)</b>		6.9	2.8	37.3
<b>Number of Systems</b>	253			

## 7. Average New England Electricity Rates

**Table 1.6 Average Retail Price of Electricity to Ultimate Customers by End-Use Sector, June 2005 and 2006 (Cents per kWh)**

	<u>Residential</u>		<u>Commercial</u>		<u>Industrial</u>		<u>All Sectors</u>	
	Jun-06	Jun-05	Jun-06	Jun-05	Jun-06	Jun-05	Jun-06	Jun-05
New England	16.4	13.4	14.8	12.2	10.5	8.4	14.5	11.9
Connecticut	16.7	13.9	13.9	11.8	12.0	9.8	14.7	12.3
Maine	16.7	14.0	13.1	9.3	3.2	3.1	11.7	9.1
Massachusetts	16.6	13.2	15.9	13.2	11.6	8.6	15.3	12.2
New Hampshire	15.4	12.9	14.5	11.4	12.0	11.1	14.4	11.9
Rhode Island	15.7	12.7	14.1	11.3	12.8	10.2	14.5	11.6
Vermont	13.9	13.1	11.9	11.5	8.4	8.0	11.6	11.1

**Figure 1.13 Average Retail Price of Electricity by End-use Sector (Cents/kWh) June 2006**

Source: EIA

Figure 1.14 Average Rates VT v. New England

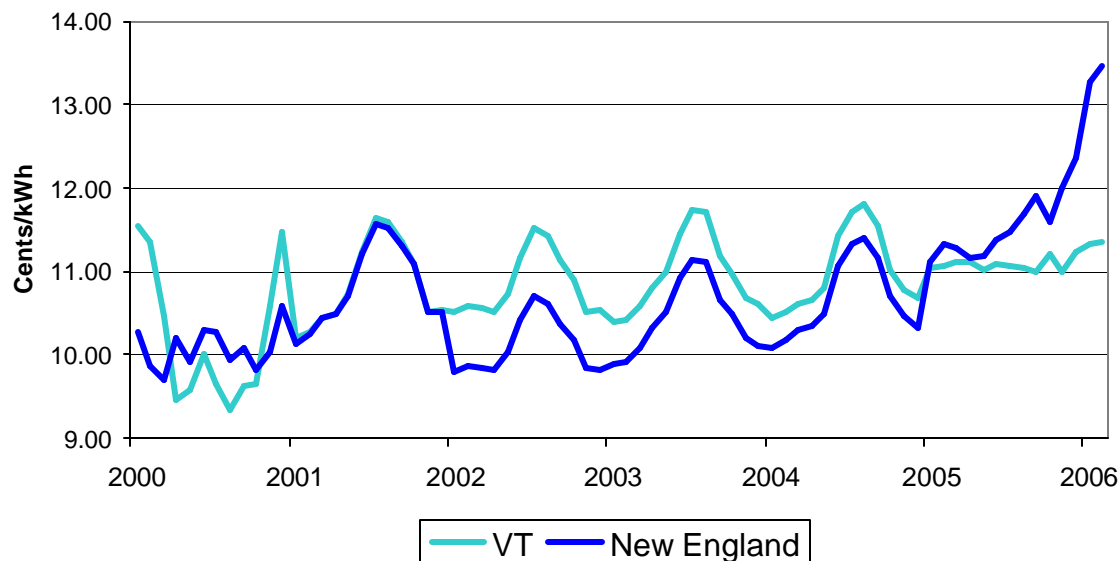
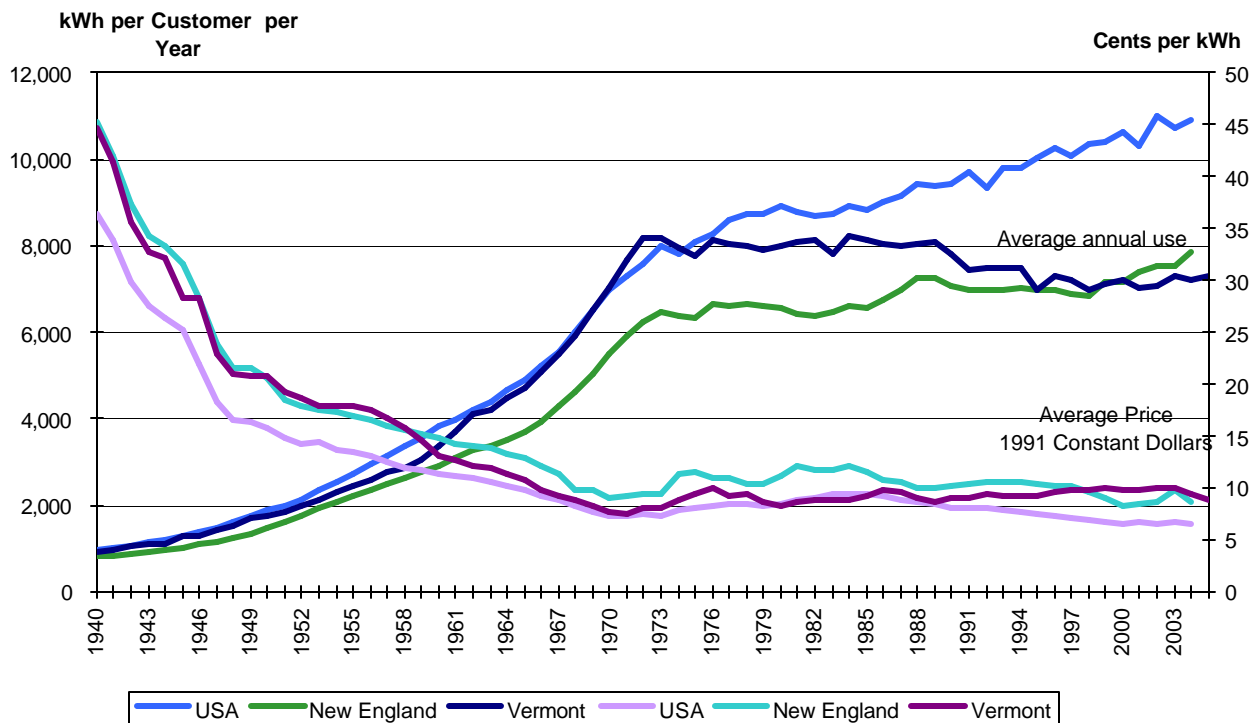


Figure 1.15 Revenue per kWh and Use per Residential Customer, 1940-2005\*



Source: VTDPs & EIA \* Data through 2005 only available for Vermont

## 8. Service Quality and Reliability

Table 1.7 System Quality and Reliability Data for CVPS and GMP

		<u>CVPS</u>	<u>GMP</u>	<u>VEC</u>
% of customer Satisfied or completely satisfied	Q4 2005	NR	NR	88%
	Baseline	80%	80%	80%
System Average Interruption Frequency (SAIFI)*	Q4 2005	NR	.3	NR
	Baseline	<=2.1	<=1.7	<=2.5
Customer Average Interruption Duration (CAIDI)*	Q4 2005	NR	1.17	NR
	Baseline	<=2.6	<=2.2	<=2.6

Table 1.8 SAIFI\*

	Q4 2005	<u>Baseline</u>
Barton	**NR	1.8
BED	NR	2.2
Enosburg	NR	NR
Hardwick	NR	2.5
Hyde Park	NR	NR
Jacksonville	NR	2.2
Johnson	NR	NR
Ludlow	2.3	3
Lyndonville	NR	3.3
Morrisville	NR	NR
Northfield	NR	1
Orleans	NR	NR
Readsboro	NR	2.4
Stowe	NR	NR
Swanton	NR	NR
VT Marble	NR	NR
WEC	5	3.8

Table 1.9 CAIDI\*

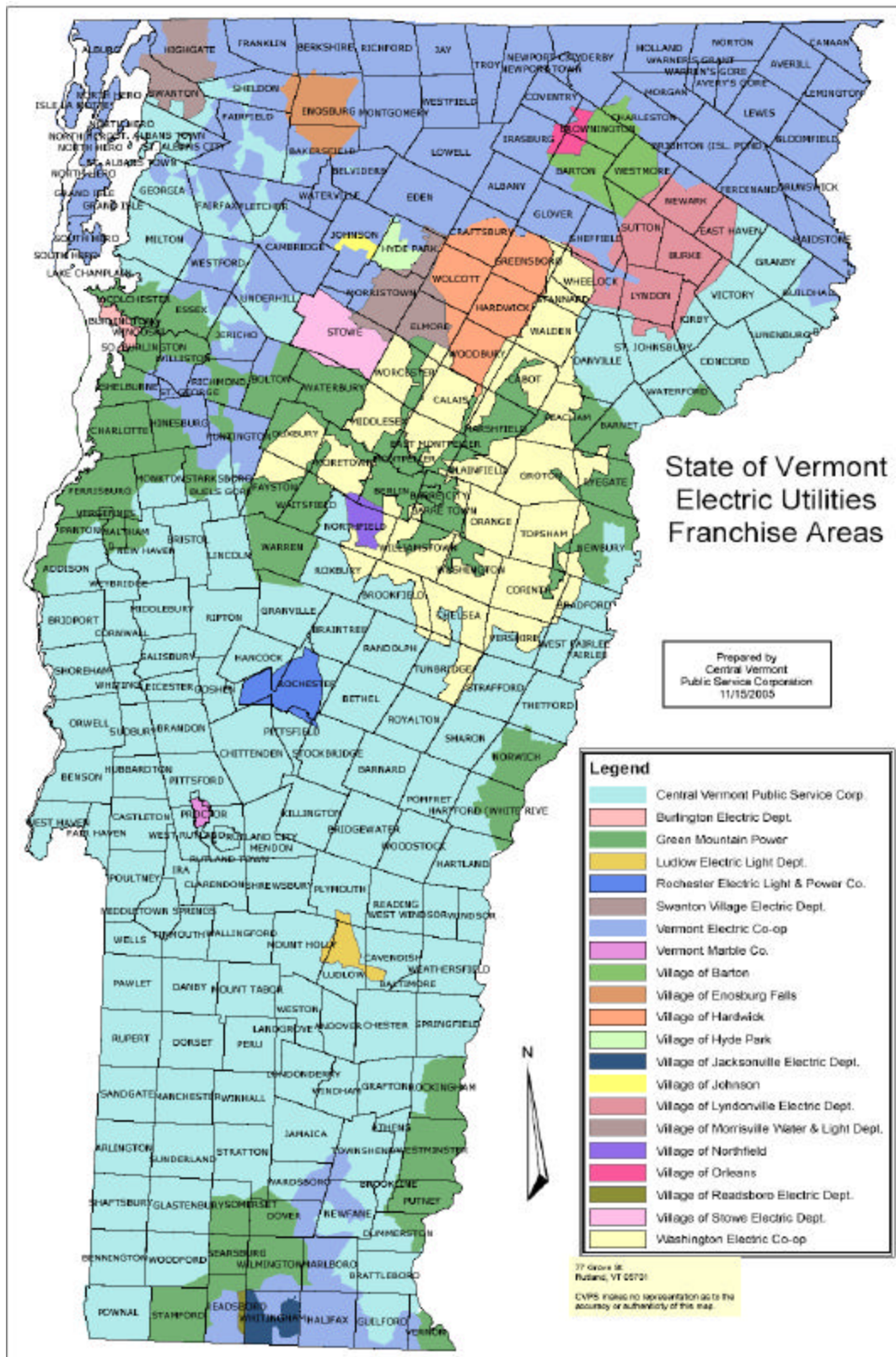
	Q4 2005	<u>Baseline</u>
Barton	**NR	2.5
BED	NR	1.3
Enosburg	NR	NR
Hardwick	NR	1.8
Hyde Park	NR	NR
Jacksonville	NR	3
Johnson	NR	NR
Ludlow	0.6	0.9
Lyndonville	NR	0.7
Morrisville	NR	NR
Northfield	NR	2.4
Orleans	NR	NR
Readsboro	NR	3
Stowe	NR	NR
Swanton	NR	NR
VT Marble	NR	NR
WEC	1.9	2.7

\* CAIDI and SAIFI baselines are crafted for a particular utility based on a variety of factors such as terrain, elevation, service territory, historical numbers, etc. For definitions see PSB Rule 4.90. These figures are based on the most recently reported baseline and annual rolling average after January 2005.

\*\* NR=Not Reported. Non-reporting companies have no SQRP or have not reported in this category for the fourth quarter of 2005.

## 9. Utility Franchise Area

Figure 1.16 Electric Utilities Franchise Area

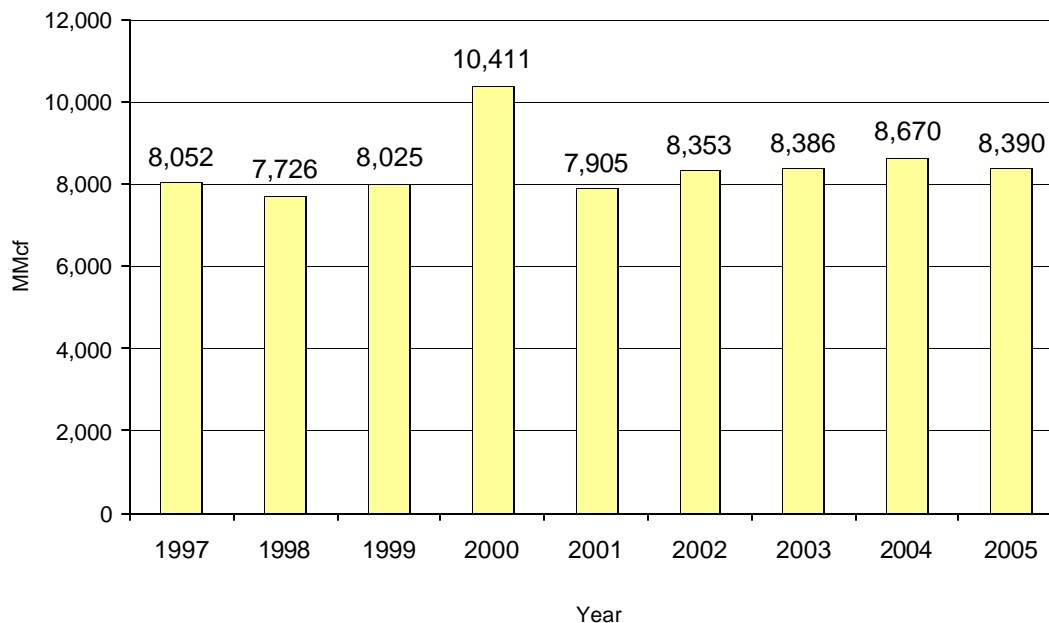


Note: Rochester Electric owned by CVPS effective 9/1/06  
Source: CVPS

## II. NATURAL GAS AND OTHER FOSSIL FUELS

### 1. Natural Gas: Price and Quantity

Figure 2.1 Natural Gas Delivered to Residential Customers in Vermont (MMcf)



While natural gas prices continued to rise (see Figure 2.2) through 2005, prices have begun to stabilize for Vermont's 38,799 customers due to a relatively mild winter in 2006.

Figure 2.2 Vermont Residential Natural Gas Price 1980-2005 (Dollars per thousand cubic feet)

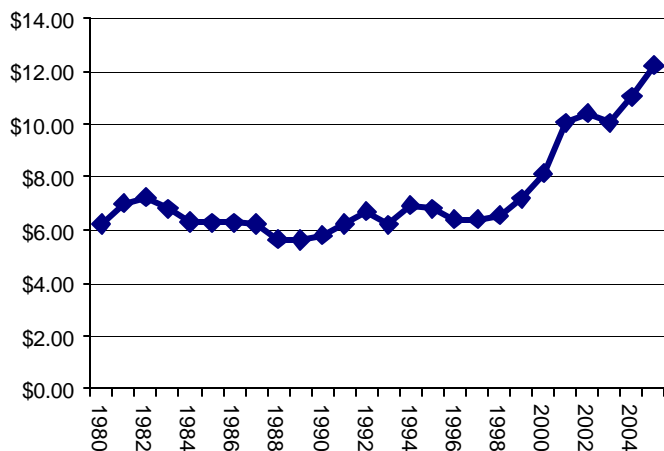
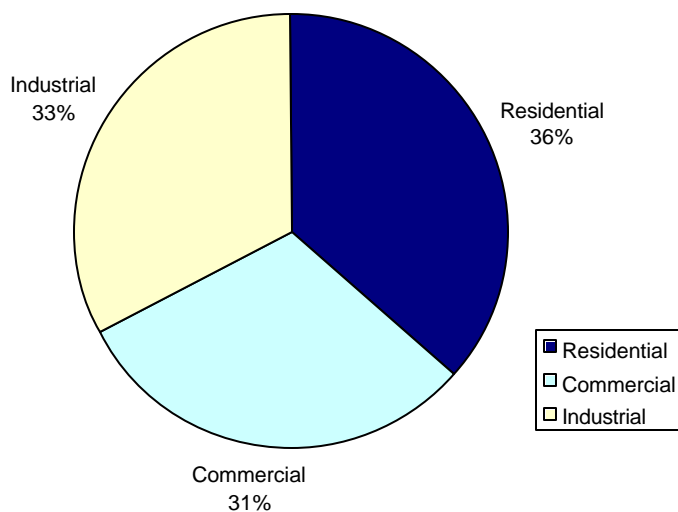


Figure 2.3 Gas Customers by End-use





**Table 2.1 VT Average Annual Natural Gas Residential Price (Dollars per Thousand Cubic Feet)**

<u>Year</u>	<u>Price</u>
1995	\$6.82
1996	\$6.40
1997	\$6.41
1998	\$6.54
1999	\$7.18
2000	\$8.13
2001	\$10.07
2002	\$10.39
2003	\$10.05
2004	\$11.03
2005	\$12.20

**Table 2.2 VT Average Monthly Natural Gas Residential Price 12 months preceding 4/06 (Dollars per Thousand Cubic Feet)**

<u>Year</u>	<u>Price</u>
May-05	\$11.76
Jun-05	\$12.48
Jul-05	\$13.45
Aug-05	\$15.99
Sep-05	\$16.46
Oct-05	\$16.10
Nov-05	\$14.07
Dec-05	\$12.91
Jan-06	\$12.88
Feb-06	\$12.92
Mar-06	\$12.89
Apr-06	\$13.35

On average, residents pay a higher price for gas during the summer than in the winter. While the rate for gas is constant throughout the year, due to a fixed daily access charge, a customer who reduces his or her gas usage (normally during the summer months) will actually pay a greater overall price per unit of gas consumed. In simple terms, Figure 2.4 demonstrates that the lower a gas bill, the higher the price paid per unit of gas.

**Figure 2.4 VT Average Residential Monthly Natural Gas Residential Price for the 12 months preceding 4/06 (Dollars per Thousand Cubic Feet)**

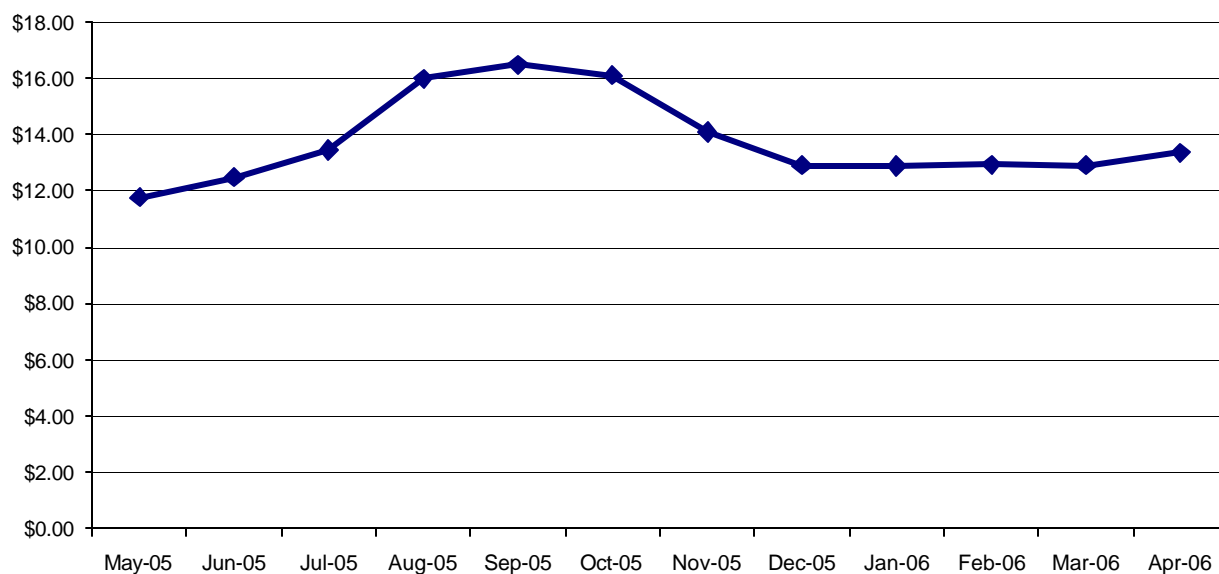


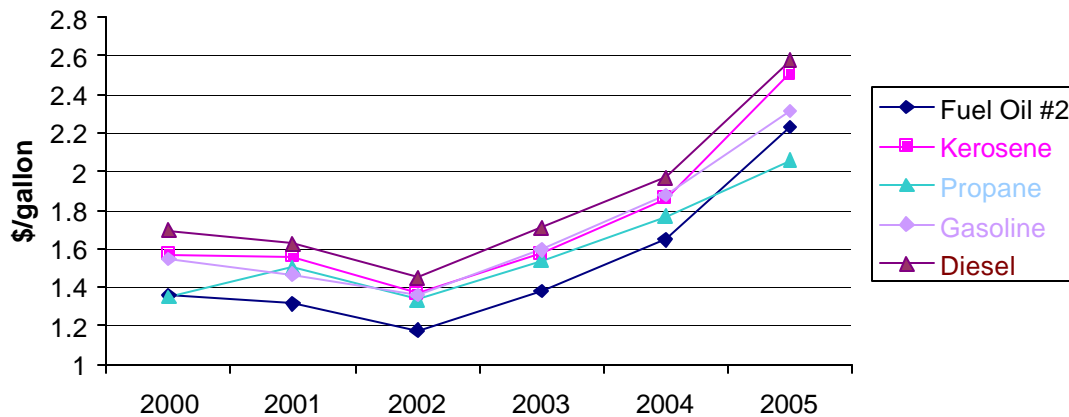
Figure 2.5 Vermont Gas Distribution Line and Service Territory 2006



Source: Vermont Gas

## 2. Fuel Prices

Figure 2.6 Fuel Prices 2000-2005

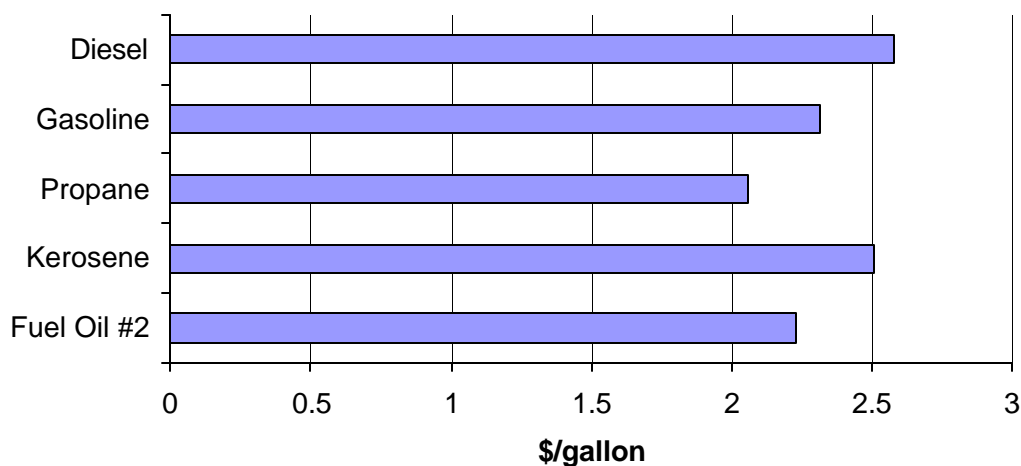


Other fuel prices have shown a growth pattern similar to natural gas over the last 5 years (see Figure 2.6). The growth in fuel prices rapidly increased in 2005 especially at the time of Hurricane Katrina. For the most recent information on fuel prices visit the [VTDPS web-site](#) where new prices are updated monthly.

Table 2.3 Fuel Prices 2000-2005 \$/gallon

	Fuel Oil #2	Kerosene	Propane	Gasoline	Diesel
2000	1.4	1.6	1.4	1.5	1.7
2001	1.3	1.6	1.5	1.5	1.6
2002	1.2	1.4	1.3	1.4	1.5
2003	1.4	1.6	1.5	1.6	1.7
2004	1.6	1.9	1.8	1.9	2.0
2005	2.2	2.5	2.1	2.3	2.6

Figure 2.7 Average Fuel Prices 2005



### III. TELECOMMUNICATIONS

#### 1. Broadband Availability

The growth in broadband access in Vermont has generally kept pace with national trends and does not appear likely to slow. As Figure 3.1 illustrates, the percentage of homes with high-speed access lines continues to grow throughout New England and the U.S.

**Table 3.1 Percentage of Households with Broadband Service**

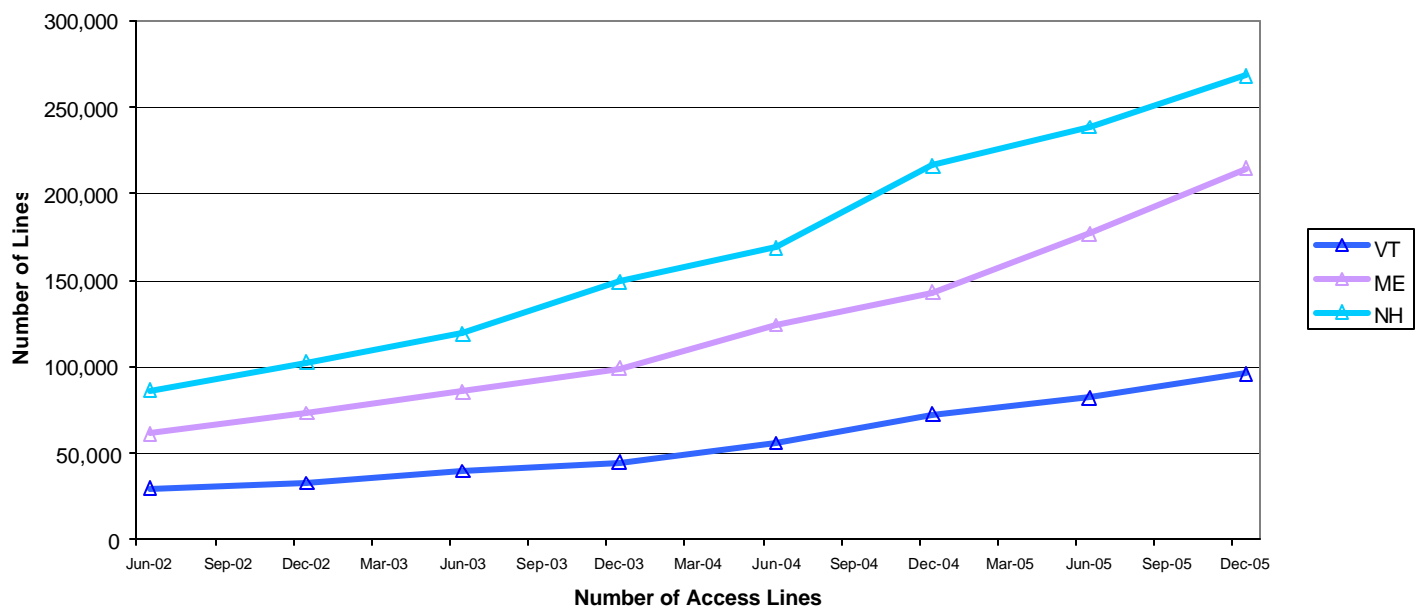
<u>Year</u>	<u>Vermont</u>	<u>USA</u>
2003	17%	22%
2005	37%	41%

**Table 3.2 Number of High-Speed Lines by State**

(Over 200 kbps in at least one direction)

<u>State</u>	<b>2002</b>		<b>2003</b>		<b>2004</b>		<b>2005</b>	
	<b>Jun</b>	<b>Dec</b>	<b>Jun</b>	<b>Dec</b>	<b>Jun</b>	<b>Dec</b>	<b>Jun</b>	<b>Dec</b>
VT	29,990	32,814	39,773	44,724	56,033	72,400	82,259	95,901
ME	61,406	73,061	85,615	99,200	124,191	142,735	176,816	214,599
NH	86,200	102,590	118,879	149,180	168,652	215,862	238,502	268,128
MA	583,627	679,084	821,135	919,638	1,024,732	1,144,146	1,235,672	1,431,759
NY	1,460,894	1,725,296	1,997,340	2,262,804	2,464,342	2,808,553	3,188,033	3,660,500
USA	16,202,540	19,881,549	23,459,671	28,230,149	32,458,458	37,890,646	42,866,469	50,237,139

**Figure 3.1 New England High Speed Lines Trend**



**Table 3.3 Residential Broadband Availability in Vermont by County (April 2006 Estimate)**

VT County	Total Population 2000	Cable Modem Coverage	Cable %	DSL Coverage	DSL %	WISP Coverage*	WISP %	Broadband (combined) Coverage**	Broadband %
Addison	35,803	16,124	45%	29,486	82%	0	0%	31,458	88%
Bennington	36,233	30,237	83%	21,066	58%	836	2%	31,481	87%
Caledonia	29,303	17,691	60%	9,815	33%	21,295	73%	26,469	90%
Chittenden	142,432	130,628	92%	114,746	81%	33,438	23%	137,385	96%
Essex	6,308	1,304	21%	0	0%	2,300	36%	2,583	41%
Franklin	44,943	25,086	56%	26,897	60%	0	0%	32,297	72%
Grand Isle	6,886	0	0%	4,241	62%	0	0%	4,241	62%
Lamoille	23,024	11,089	48%	5,717	25%	7,481	32%	14,228	62%
Orange	27,397	9,089	33%	7,489	27%	1,135	4%	13,965	51%
Orleans	25,989	13,692	53%	6,101	23%	13,924	54%	18,775	72%
Rutland	62,299	48,043	77%	53,726	86%	0	0%	59,132	95%
Washington	57,388	42,525	74%	42,933	75%	15,583	27%	54,251	95%
Windham	43,536	28,787	66%	22,698	52%	1,260	3%	32,126	74%
Windsor	56,688	36,944	65%	35,279	62%	7,476	13%	45,213	80%
<b>Totals</b>	<b>598,229</b>	<b>411,239</b>	<b>69%</b>	<b>380,194</b>	<b>64%</b>	<b>104,730</b>	<b>18%</b>	<b>503,604</b>	<b>84%</b>

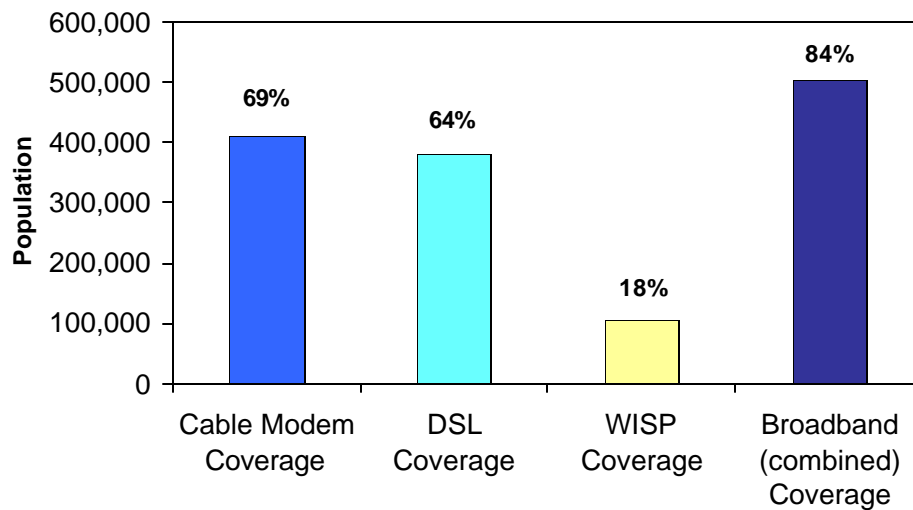
\*Wireless Internet Service Provider

\*\*Combined Coverage Includes Cable, DSL and Broadband

At Vermont's county level, the degree of broadband availability varies widely. In Rutland, Washington and Chittenden Counties, (see Table 3.3) at least 95% of the population has access to some type of broadband service. In Essex and Orange Counties, on the other hand, DSL, cable and fixed wireless broadband services are available to 41% and 51% of the population respectively.

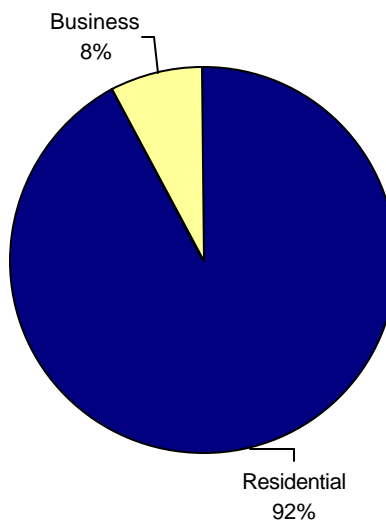
Types of broadband services vary greatly in Vermont. For example, eighteen percent of Vermonters, *on average*, have access to a Wireless Internet Service Provider (WISP). Yet in seven counties, less than 5% of the population can be reached by a WISP, and in Caledonia County, 73% of the population can be reached by a WISP.

**Figure 3.3 Percentage of Vermont Residential Population with Broadband Availability (April 2006 Estimate)**



Source: VTDPs

**Figure 3.2 Vermont High-Speed Lines by Type of User as of December 31, 2005 (Over 200 kbps in at least one direction)**



**Table 3.4 Vermont High-Speed Lines by Type of User as of December 31, 2005 (Over 200 kbps in at least one direction)**

Residential	Business
88,317	7,584

Source: FCC

Figure 3.4 Percent of DSL Qualified Lines by Carrier 2004

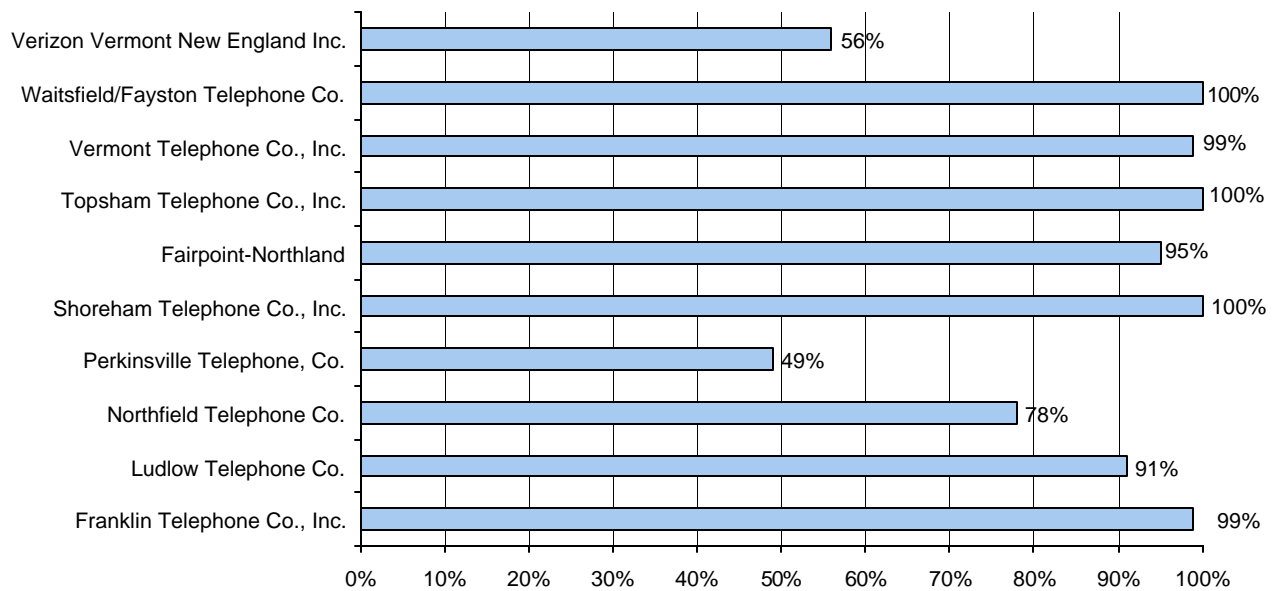
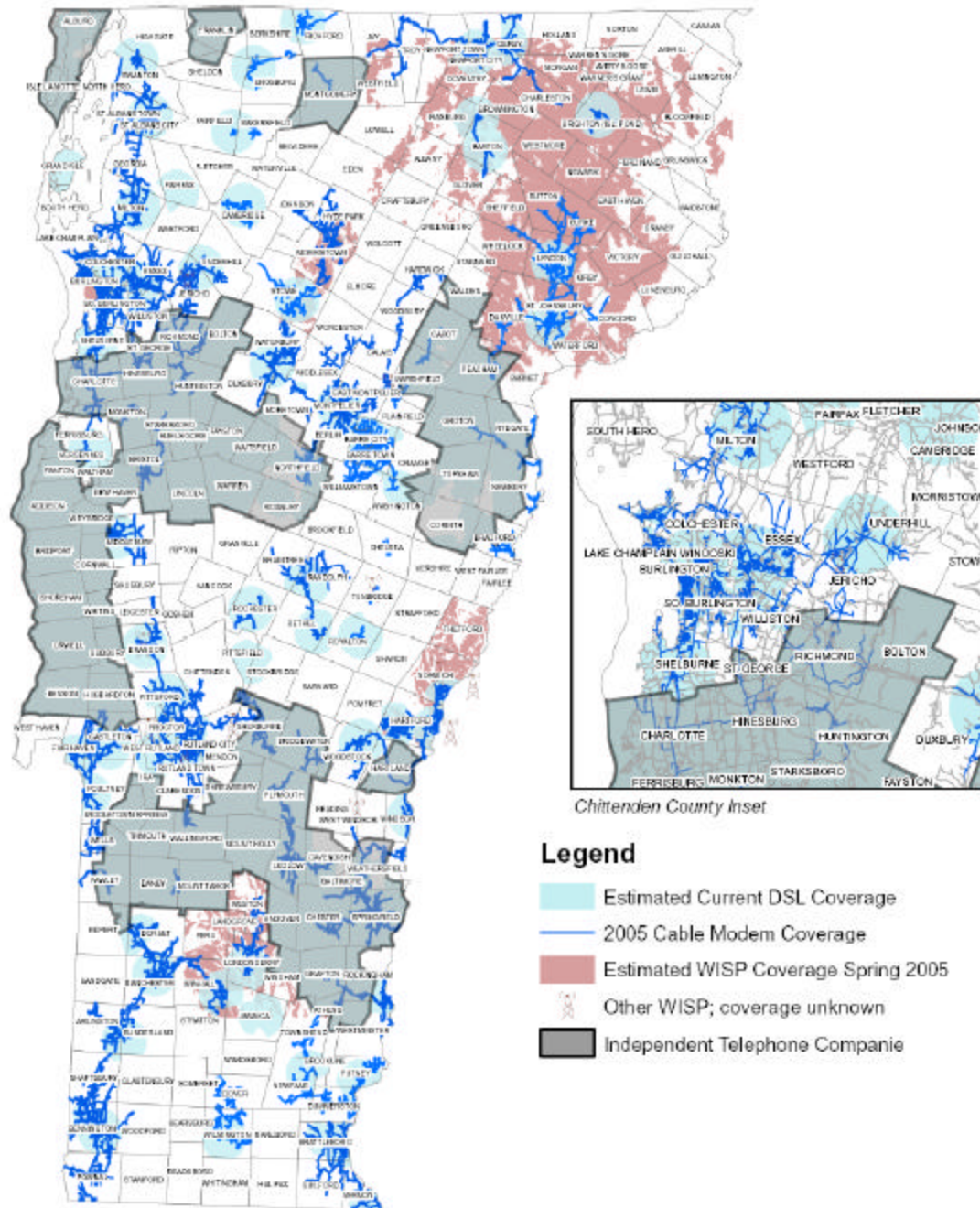


Table 3.5 DSL Qualified Lines by Carrier 2004

Legal Name of Company	% of Lines DSL Qualified
Franklin Telephone Co., Inc.	99%
Ludlow Telephone Co.	91%
Northfield Telephone Co.	78%
Perkinsville Telephone, Co.	49%
Shoreham Telephone Co., Inc.	100%
Fairpoint-Northland	95%
Topsham Telephone Co., Inc.	100%
Vermont Telephone Co., Inc.	99%
Waitsfield/Fayston Telephone Co.	100%
Verizon Vermont New England Inc.	56%
<b>Totals</b>	<b>62%</b>



Figure 3.5 Estimated Broadband Availability 2005

**Notes:**

\* Cable modem coverage is based on cable company annual report filings through 2005. Non-Adelphia coverage does not include some post-2003 line extensions, but those not included are minor in extent.

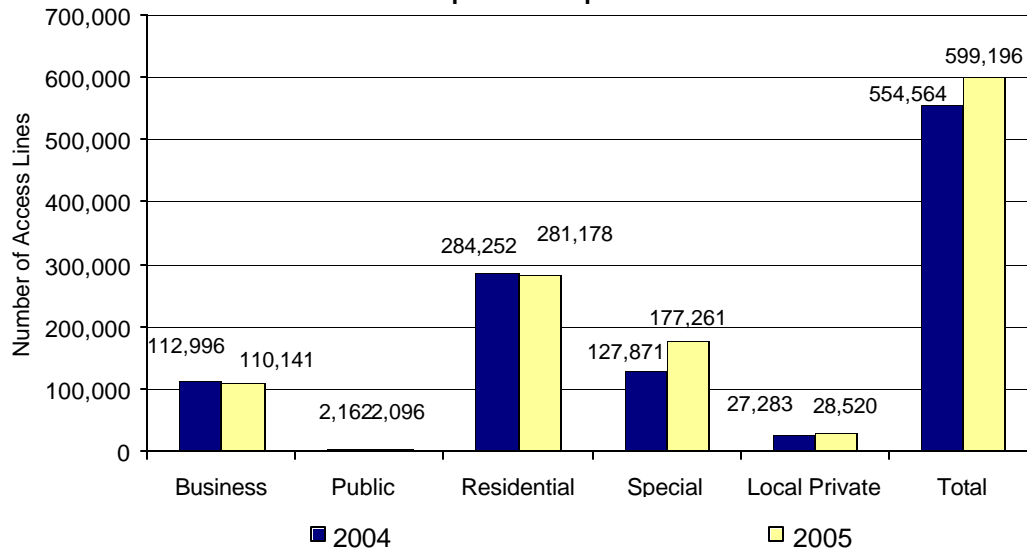
\* DSL coverage is through January 2005, with some updates for Verizon Central Office DSL deployments through the end of 2005. DSL coverage includes ILEC and CLEC coverage areas. Verizon-area coverage is estimated and may over- or understate the geographic area served. A small number of Verizon Remote Terminal DSL deployments that happened later in 2005 are not shown.

\*Wireless ISP coverages are radiofrequency propagation estimates, where available. In some cases, approximate base station locations are shown where coverage estimates are not available.



## 2. Number of Telephone Access Lines

Figure 3.6 Access Lines Served by Vermont Incumbent Local Exchange Telephone Companies\*



\*Excludes Voice Over Internet Protocol (VOIP) lines.

Table 3.6 Access Lines served by Vermont Incumbent Local Exchange Telephone Companies in 2005

Doing Business As	Business	Public	Residential	Special	Local Private Lines	Total
Franklin	34	0	851	0	0	885
TDS Ludlow	1,193	0	3,918	0	0	5,111
TDS Northfield	871	0	2,375	0	0	3,246
TDS Perkinsville	106	0	838	0	0	944
Shoreham	389	0	3,247	7	0	3,643
Fairpoint-Northland	688	10	5,542	0	0	6,240
Topsham	111	0	1,545	0	0	1,656
Verizon	98,570	2,086	229,198	176,731	28,520	535,105
VTel	4,553	0	16,466	291	0	21,310
Waitsfield	3,626	0	17,198	232	0	21,056
<b>Total</b>	<b>110,141</b>	<b>2,096</b>	<b>281,178</b>	<b>177,261</b>	<b>28,520</b>	<b>599,196</b>

**Note:**

"Public" includes Semi-Public Pay telephones, Formerly Public included company stations, extension & PBX stations, which are now tabulated under "Business."

" Special Access Lines" are dedicated lines from a customer to a long distance company provided by a local phone company.

"Local Private Lines" defined in the FCC account as a special service circuit with either a serial number or telephone number format.

## 3. Local Exchange Carriers and Rates

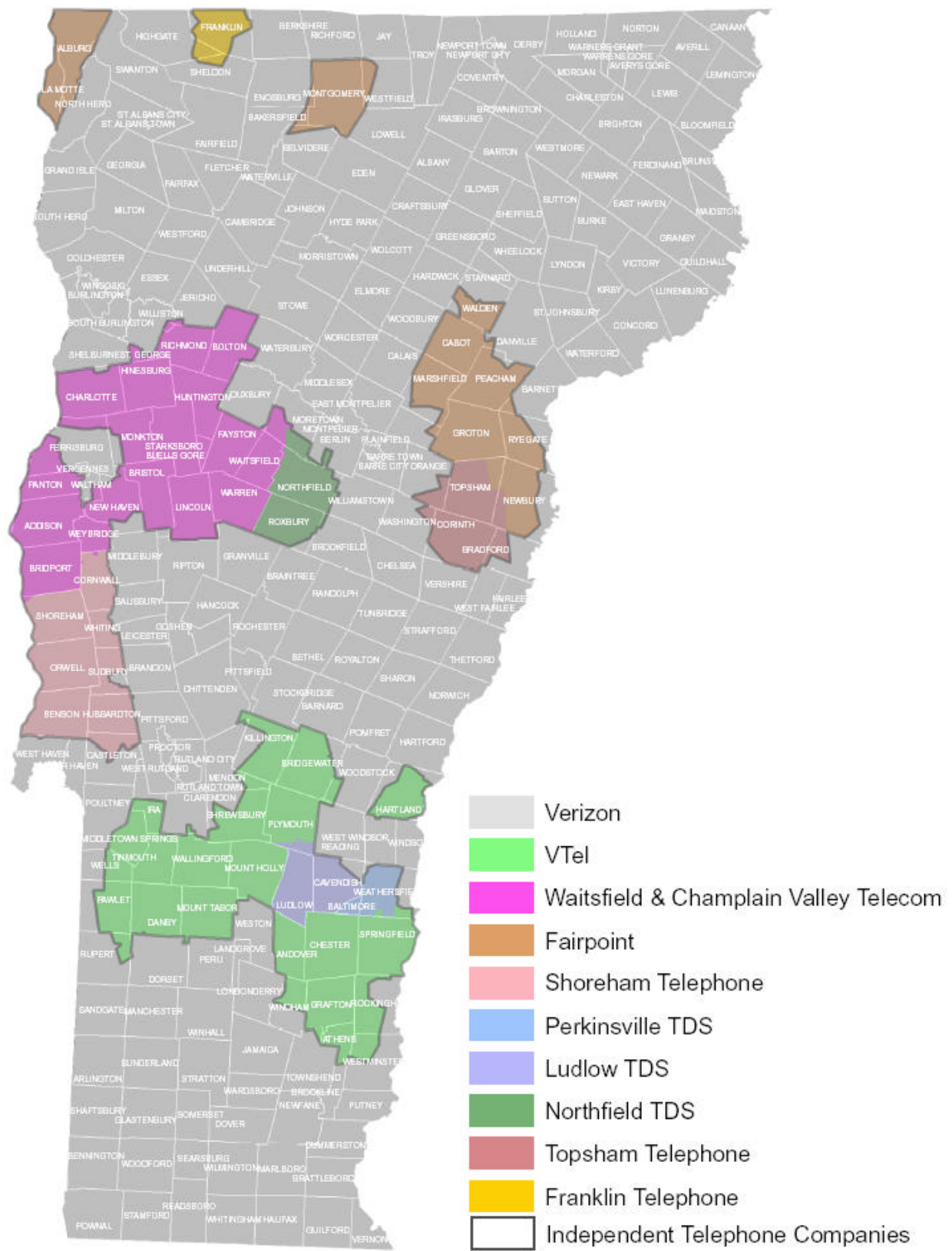
Table 3.7 Incumbent Telephone Company Prices for Local Service as of the End of 2005

Company	LMS Residential Rate (\$/Minutes of Use)		Extended Area Service		Dial Tone Local Rates with Touch Tone (\$/month)		Local Usage Caps (\$/month)		Basic Service (\$/month)**	
	Home Exchange		Peak	Off-Peak	Residential	Business	Residential	Business	Residential	Business
	Peak	Off-Peak								
<b>Verizon</b>	0.022	0.005	0.022	0.005	13.15 (low use) or 18.35 Standard	32	39.4	75.27	N/A	N/A
<b>VTel</b>	0.022	0.005	0.022	0.005	12.70 (base rate) or 20.00 (Plain Talk, includes 20 hours of service)	23.25 (base rate) or 30.00 (Plain Talk, includes 20 hours of service)	25.00 (Base Rate) or 15.00 (Plain Talk)	35.00 (Base Rate) or 15.00 (Plain Talk)	N/A	N/A
<b>Fairpoint</b>	0.01	0.005	0.025	0.005	13.2	23.65	24	38	N/A	N/A
<b>WCVT**</b>	0.01	0.005	0.022	0.01	13.4	26.4	28	38	N/A	N/A
<b>Shoreham</b>	0.014	0.005	0.02	0.005	6.15	10.25	30	30	N/A	N/A
<b>Topsham</b>	0	0	0.035	0.015	11.35	18.1	22	22	N/A	N/A
<b>Franklin</b>	0	0	0.03	0.01	10.00 or 15.00 (May through Oct)	18	N/A	N/A	N/A	N/A
<b>TDS Northfield</b>	≤ 300 minutes of usage = \$0 per minute, 301 ≤ 900 minutes of usage = \$0.015 per minute, ≥ 901 minutes of usage = \$0.005				13.4*	22.15*	N/A	N/A	29	38
<b>TDS Ludlow</b>	< 300 minutes of usage = \$0 per minute, 301 ≤ 600 minutes of usage = \$0.025 per minute, 601 ≤ 900, minutes of usage = \$0.015 per minute ≥ 901 minutes of usage = \$0.005				12.9*	22.65*	N/A	N/A	29	38
<b>TDS Perkinsville</b>	≤ 300 minutes of usage = \$0 per minute, 301 ≤ 600 minutes of usage = \$0.025 per minute, 601 ≤ 900 minutes of usage = \$0.015 per minute ≥ 901 minutes of usage = \$0.005				12.9*	22.65*	N/A	N/A	29	38

\* Plus the LMS Rate (also the Business Rate)

\*\*Unlimited LMS

Figure 3.7 Vermont Incumbent Local Exchange Telephone Companies

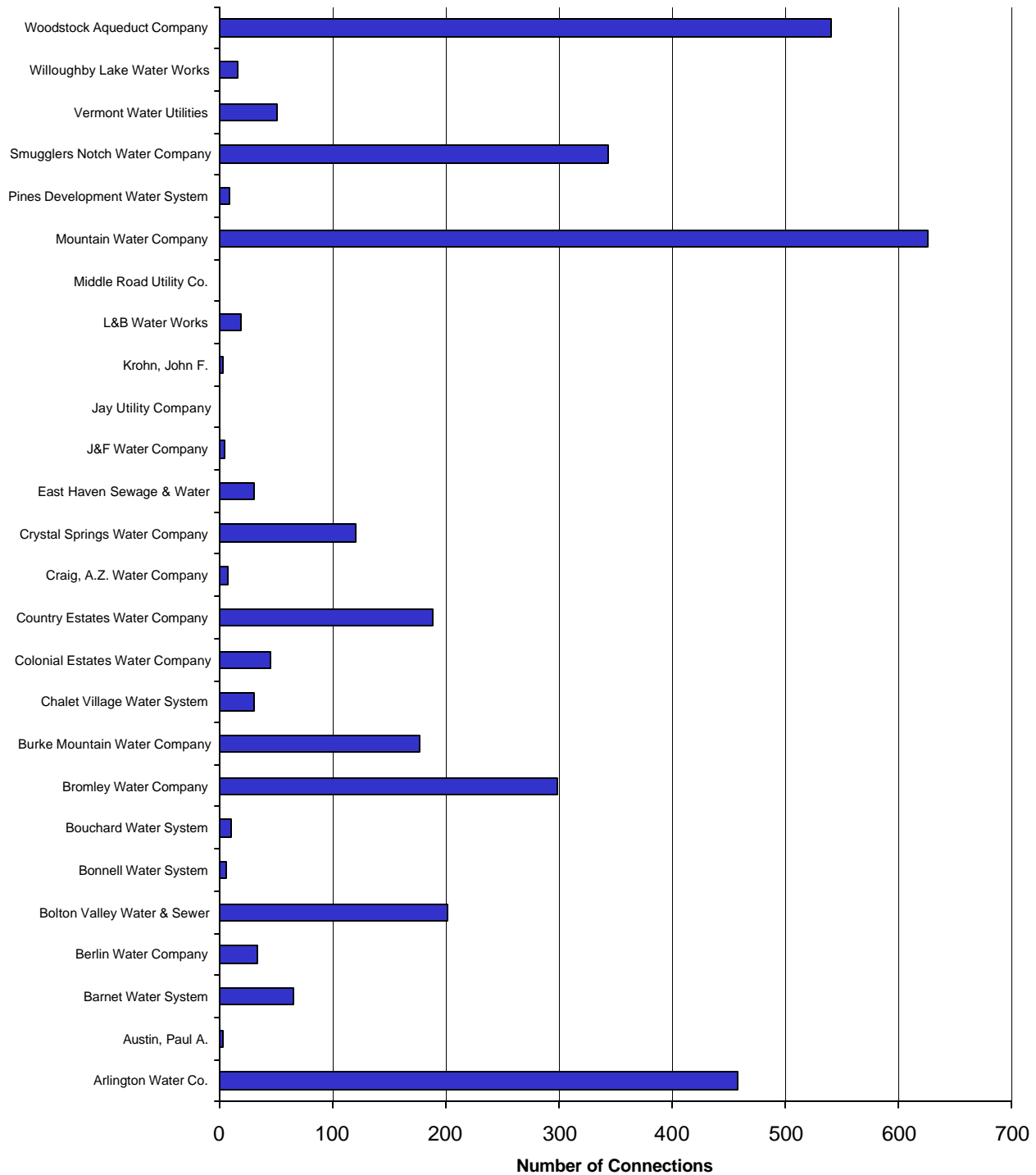


Source: VTDPs

### III. WATER

#### 1. Water Connections

Figure 4.1 Number of Water Connections by Location



Source: VTDPs

**Table 4.1 Water Connections by Company by Location**

<b>Company</b>	<b>Location</b>	<b>Connections</b>
Arlington Water Co.	Arlington	458
Austin, Paul A.	Shelburne	3
Barnet Water System	Barnet	65
Berlin Water Company	Berlin	34
Bolton Valley Water & Sewer	Bolton	202
Bonnell Water System	Newport	6
Bouchard Water System	Swanton	10
Bromley Water Company	Bromley	298
Burke Mountain Water Company	Burke	177
Chalet Village Water System	Stockbridge	30
Colonial Estates Water Company	Rutland	45
Country Estates Water Company	Ascutney	188
Craig, A.Z. Water Company	Sutton	7
Crystal Springs Water Company	E. Montpelier	121
East Haven Sewage & Water	Essex Junction	31
J&F Water Company	Colchester Center	5
Jay Utility Company	Jay	0
Krohn, John F.	Milton	3
L&B Water Works	Wheelock	20
Middle Road Utility Co.	Colchester	0
Mountain Water Company	Warren	625
Pines Development Water System	Morrisville	9
Smugglers Notch Water Company	Jeffersonville	343
Vermont Water Utilities	Georgia	51
Willoughby Lake Water Works	Westmore	16
Woodstock Aqueduct Company	Woodstock	540
<b>Total water connections</b>		<b>3,576</b>

## Glossaries

### Energy Glossary

**Commercial sector:** An energy-consuming sector that consists of service-providing facilities and equipment of: businesses; Federal, State, and local governments; and other private and public organizations, such as religious, social, or fraternal groups. The commercial sector includes institutional living quarters. It also includes sewage treatment facilities. Common uses of energy associated with this sector include space heating, water heating, air conditioning, lighting, refrigeration, cooking, and running a wide variety of other equipment.

*Note:* This sector includes generators that produce electricity and/or useful thermal output primarily to support the activities of the above-mentioned commercial establishments.

**Demand-side management (DSM):** The planning, implementation, and monitoring of utility activities designed to encourage consumers to modify patterns of electricity usage, including the timing and level of electricity demand. It refers to only energy and load-shape modifying activities that are undertaken in response to utility-administered programs. It does not refer to energy and load-shaped changes arising from the normal operation of the marketplace or from government-mandated energy-efficiency standards. Demand-Side Management covers the complete range of load-shape objectives, including strategic conservation and load management, as well as strategic load growth.

**Gigawatt-hour (gWh):** One billion watts or one thousand megawatts supplied to, or taken from, an electric circuit steadily for one hour.

**Industrial sector:** An energy-consuming sector that consists of all facilities and equipment used for producing, processing, or assembling goods. The industrial sector encompasses the following types of activity: manufacturing (NAICS codes 31-33); agriculture, forestry, fishing and hunting (NAICS code 11); mining, including oil and gas extraction (NAICS code 21); and construction (NAICS code 23). Overall energy use in this sector is largely for process heat and cooling and powering machinery, with lesser amounts used for facility heating, air conditioning, and lighting. Fossil fuels are also used as raw material inputs to manufactured products. *Note:* This sector includes generators that produce electricity and/or useful thermal output primarily to support the above-mentioned industrial activities.

**Kilowatt (kW):** One thousand watts. Watts are the units of electrical power equal to one ampere under a pressure of one volt. A Watt is equal to 1/746 horsepower.

**Kilowatt-hour (kWh):** The electrical energy unit of measure equal to one thousand watts of power (3,412 Btu) supplied to, or taken from, an electric circuit steadily for one hour.

**Load (electric):** The amount of electric power delivered or required at any specific point or points on a system. The requirement originates at the energy-consuming equipment of the consumers.

**Load factor:** The ratio of the average load to peak load during a specified time interval.

**Megawatt (MW):** One million watts of electricity.

**Peak load:** The maximum load during a specified period of time.

**Peaking capacity:** Capacity of generating equipment normally reserved for operation during the hours of highest daily, weekly, or seasonal loads. Some generating equipment may be operated at certain times as peaking capacity and at other times to serve loads on an around-the-clock basis.

**Renewable energy resources:** Energy resources that are naturally replenishing. Renewable energy resources in Vermont include: biomass, hydro, geothermal, solar and wind.

**Net metering:** This system permits a customer to own and operate a small generator on the customer side of the meter. Customer-side generation serves to offset the amount of generation for which the customer is billed. Also, any excess power at the end of the month can be sold back to the utility. This system facilitates the ease of operating generally small and intermittent generators such as those using solar and wind energy.

**Residential sector:** An energy-consuming sector that consists of living quarters for private households. Common uses of energy associated with this sector include space heating, water heating, air conditioning, lighting, refrigeration, cooking, and running a variety of other appliances. The residential sector excludes institutional living quarters. *Note:* Various EIA programs differ in sectoral coverage.

Source: EIA & DPS

## Telecommunications Glossary

**Broadband:** Refers to evolving digital technologies that provide consumers a signal switched facility capable of providing integrated access to voice, high-speed data service, video-demand services, and interactive delivery services at a speed of over 200 kbps in at least one direction.

**Cable Modem (CM):** Cable modems are designed to operate over cable TV lines to provide high-speed access to the Web or corporate Intranets. A power splitter and a new cable are usually required. The splitter divides the signal for the "old" installations and the new segment that connects the cable modem. No television sets are accepted on the new string that goes to the cable modem.

**Digital Subscriber Line (DSL):** Digital Subscriber Line is a technology for bringing high-speed and high-bandwidth, which is directly proportional to the amount of data transmitted or received per unit time, information to homes and small businesses over ordinary copper telephone lines already installed in hundreds of millions of homes and businesses worldwide. With DSL, consumers and businesses take advantage of having a dedicated, always-on connection to the Internet.

Source: FCC & DPS

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**Data Sources**

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Central Vermont Public Service Corporation (CVPS)	<a href="http://www.cvps.com">http://www.cvps.com</a>
Energy Information Administration (EIA)	<a href="http://www.eia.doe.gov">http://www.eia.doe.gov</a>
Federal Communications Commission (FCC)	<a href="http://www.fcc.gov">http://www.fcc.gov</a>
ISO- New England (ISO-NE)	<a href="http://www.iso-ne.com">http://www.iso-ne.com</a>
Vermont Department of Public Service (VTDPS)	<a href="http://www.publicservice.vermont.gov">http://www.publicservice.vermont.gov</a>
Vermont Gas (VGS)	<a href="http://www.vermontgas.com/">http://www.vermontgas.com/</a>

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